

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDDY W. VANHOUTTE
and
GILBERT DE CLERCQ

Appeal No. 1999-1121
Application No. 08/752,865

ON BRIEF

Before THOMAS, HAIRSTON, and LALL, Administrative Patent Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 2 through 6. In an Amendment After Final (paper number 11), claims 3 through 5 were amended. Claims 7 through 9 stand withdrawn from consideration as being directed to a non-elected invention.

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The disclosed invention relates to an electrically conductive wire that has first and second solder balls fixed on the wire. The two solder balls are separated by flux fixed on the wire.

Claim 3 is the only independent claim on appeal, and it reads as follows:

3. An apparatus comprising
 - a. an electrically conductive wire;
 - b. a first solder ball fixed on said wire;
 - c. a second solder ball fixed on said wire, said second ball being distinct from said first ball; and
 - d. flux fixed on said wire and separating said first and second solder balls.

The references relied on by the examiner are:

Krueger	3,889,364	Jun. 17, 1975
Siden	3,925,596	Dec. 9, 1975
Gurevich et al. (Gurevich)	5,298,877	Mar. 29, 1994
Fukuhara	1 052 475	Apr. 10, 1979
(Published Canadian Patent Application)		

Claims 3 and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Krueger.

Claim 2 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Krueger in view of Gurevich.

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Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Krueger in view of Fukuhara.

Claim 5 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Krueger in view of Fukuhara and Siden.

Reference is made to the brief (paper no. 13) and the answer (paper no. 14) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will sustain the 35 U.S.C. § 102(b) rejection of claims 3 and 6, and the 35 U.S.C. § 103(a) rejection of claim 2. On the other hand, we will reverse the 35 U.S.C. § 103(a) rejections of claims 4 and 5.

Turning first as we must to the 35 U.S.C. § 102(b) rejection of claims 3 and 6, we agree with the examiner (answer, pages 3 and 4) that Krueger discloses (Figure 2) an electrically conductive wire 1, a first solder ball 4 fixed on the wire in loop 3, a second solder ball 4' fixed on the wire in loop 3' that is distinct from the

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first solder ball 4, and flux fixed on the wire that
separates the first and

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second solder balls (Krueger, claim 4 and column 3, lines 61 through 64).

Appellants argue (brief, page 4) that "the flattened solder elements are not balls as claimed." Appellants' argument is not well received in that neither the disclosed and claimed balls nor the balls in Krueger are balls in the classical sense since they are not completely spherical in shape. If the claimed solder elements are balls, then the solder elements 4 and 4' in Krueger are balls. Thus, we agree with the examiner (answer, page 7) that "there is no structure recited in claim 3 which would preclude Krueger's elements 4 and 4' from serving as the first and second solder balls." With respect to claim 6, we agree with the examiner (answer, page 4) that "[t]he disclosed dipping of each of the loops 3 and 3' into a molten bath of solder would result in solder being applied to the exterior as well as the interior of the loop, thus disposing solder substantially around the wire 1, as recited by Applicants."

Appellants acknowledge (brief, page 4) that Krueger's flux covers the flattened solder elements and

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the wire loops, but nevertheless conclude (brief, page 4) that "[o]nly the wire portion 1 can be said to separate Krueger's solder elements." Appellants' argument to the contrary notwithstanding, we agree with the examiner (answer, page 7) that the flux on each of the solder balls functions to separate the two solder balls from each other.

Based upon the foregoing, the 35 U.S.C. § 102(b) rejection of claims 3 and 6 is sustained.

The 35 U.S.C. § 103(a) rejection of claim 2 is sustained pro forma because appellants have not presented any arguments to refute the conclusion of obviousness reached by the examiner (answer, page 4).

When claim 4 is considered as a whole, we find that it requires an end protruding beyond the solder ball that is suitable for insertion through a substrate. Inasmuch as the ends of the wire 1 in Krueger have been bent into loops, we find it hard to believe that the skilled artisan after considering the teachings of Fukuhara would attempt to put ends onto the wire 1 so that they would extend beyond the loops. In short, we agree with

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appellants (brief, page 5) that “[a]ny hypothetical
combination of the two results

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from impermissible hindsight in view of Applicants' disclosure." The 35 U.S.C. § 103(a) rejection of claim 4 is reversed.

The 35 U.S.C. § 103(a) rejection of claim 5 is likewise reversed because the applied references neither teach nor would have suggested ends protruding from each of the two loops in Krueger's wire 1 that are suitable for insertion into a substrate.

DECISION

The decision of the examiner rejecting claims 3 and 6 under 35 U.S.C. § 102(b) is affirmed, and the decision of the examiner rejecting claims 2, 4 and 5 under 35 U.S.C.

§ 103(a) is affirmed as to claim 2, and is reversed as to claims 4 and 5. Accordingly, the decision of the examiner is affirmed-in-part.

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No time period for taking any subsequent action in
connection with this appeal may be extended under 37 CFR
§ 1.136(a).

AFFIRMED-IN-PART

JAMES D. THOMAS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
KENNETH W. HAIRSTON)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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PARSHOTAM S. LALL)	
Administrative Patent Judge)	

KWH:hh

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